Junxiu TANG

| CONTACT INFORMATION | Center for Sci of Sci & Innovation (CSSI)
1800 Sherman Ave.
Evanston, Illinois, U.S., 60201 | https://ahugh19.github.io/
junxiu.tang@kellogg.northwestern.edu
Updated: August, 2025 |

RESEARCH INTERESTS

My research explores the transformation of data into ***valuable insights***, ***compelling narratives***, and ***aesthetic expressions***. It encompasses advanced data visualization techniques, rigorous scientific logic, and artistic presentation methods. Specifically, my past research lies in the design and interaction of data-driven communication, storytelling, and event sequence visualization. I am also keen to explore relationship between data and art.

Keywords: Data Visualization, Visual Analytics, Fixed-order Event Sequence, Embedded Visualization, Data-driven Art, Data-driven Communication, Data Video, Storytelling, Human-AI Collaboration

WORK

Northwestern University, Evanston, US   06.2025–Present
Center for Science of Science & Innovation (CSSI)
Kellogg School of Management
Post-Doctoral Researcher

Zhejiang University, Hangzhou, China   01.2025–05.2025
Interactive Data Group
College of Computer Science and Technology
Research Assistant

EDUCATION

Zhejiang University, Hangzhou, China   09.2019–12.2024
Department of Computer Science and Technology
College of Computer Science and Technology
Ph.D., with Prof. Yingcai Wu, at ZJUIDG
Thesis: Theoretical and Applied Research of Visualizations for Fixed-order Event Sequence

Inria, Palaiseau, France   11.2023–06.2024
Inria Saclay Center
Visiting Ph.D. Student, with Dr. Petra Isenberg, at Aviz
Research Focus: Embedded Visualizations in Swimming Videos

Zhejiang University, Hangzhou, China   09.2014–06.2019
Department of Digital Media Technology
College of Computer Science and Technology
B.Eng.
Research Focus: Design Guidelines on Augmenting Short-form Data Videos

RESEARCH INTERNSHIPS

JD Intelligent Cities Research, Jing Dong Technology
Beijing, China   02.2022–06.2022
Research Intern, Software Engineer
Building visual analytics systems for urban computing, especially intelligent transportation and disease control. Supervised by Dr. Jie Bao and Prof. Yu Zheng.

IDEA Lab, Alibaba-Zhejiang University Joint Research Institute of Frontier Technology (AZFT)
Hangzhou, China   09.2019–12.2021
Research Intern
Coorperated with DAMO Academy and Cainiao

Cainiao Smart Logistics, Alibaba Group
Hangzhou, China   09.2020-12.2021
Research Intern, UI&UX Designer
Building the visual analytics system for intelligent logistics,
especially on order processing monitoring and optimization.

Alibaba DAMO Academy for Discovery, Adventure, Momentum and Outlook, Alibaba Group
Hangzhou, China   11.2019-09.2020
Research Intern, Algorithm Engineer
Worked on visualization theory and intelligent methods for data
video generation and augmentation.

PUBLICATIONS   Asterisk* indicates equal contribution.

Junxiu Tang, Fumeng Yang, Jiang Wu, Yifang Wang, Jiayi Zhou, Xiwen Cai, Lingyun Yu, and Yingcai Wu. A Comparative Study on Fixed-order Event Sequence Visualizations: Gantt, Extended Gantt, and Stringline Charts. In *IEEE Transactions on Visualization and Computer Graphics (TVCG) 2024*, DOI: 10.1109/TVCG.2024.3358919, OSF.

Junxiu Tang, Yuhua Zhou, Tan Tang, Di Weng, Boyang Xie, Lingyun Yu, Huaqiang Zhang, and Yingcai Wu. A Visualization Approach for Monitoring Order Processing in E-Commerce Warehouse. In *IEEE Transactions on Visualization and Computer Graphics (TVCG) 2022 (Proceedings of IEEE VIS '21)*, DOI: 10.1109/TVCG.2021.3114878.

Junxiu Tang, Lingyun Yu, Tan Tang, Xinhuan Shu, Lu Ying, Yuhua Zhou, Peiran Ren, and Yingcai Wu. Narrative Transitions in Data Videos. Short Paper. In *Proceedings of IEEE VIS '20*, DOI: 10.1109/VIS47514.2020.00037, Project webpage.

Junxiu Tang, Rui Sheng, Yifang Wang, Xinhuan Shu, Xiaojiao Chen, Tan Tang, and Yingcai Wu. Posts with No Response: The Island of Loneliness. In *IEEE VIS Arts Program (VISAP2023@IEEE VIS)*, DOI: 10.1109/VISAP60414.2023.00007, OSF.

Junxiu Tang, Jiayi Zhou, Yifang Wang, Xinhuan Shu, Peiquan Xia, Xiaojiao Chen, Tan Tang, and Yingcai Wu. Loss of Sonnet 18. In *ACM SIGGRAPH Art Gallery (2024)*, DOI: 10.1145/3641523.3669939, OSF.

Junxiu Tang, Huimin Ren, Zikun Deng, Di Weng, Tan Tang, Lingyun Yu, Jie Bao, Yu Zheng, and Yingcai Wu. Towards Better Illegal Chemical Facility Detection with Hazardous Chemicals Transportation Trajectories. In *Journal of Visualization 2025 (Proceedings of ChinaVis '24)*, DOI: 10.1007/s12650-025-01055-8.

Tan Tang*, **Junxiu Tang***, Jiewen Lai, Lu Ying, Peiran Ren, Lingyun Yu, and Yingcai Wu. SmartShots: Enabling Automatic Generation of Videos with Data Visualizations Embedded. Extended Abstract. In *ACM International Conference on Multimedia (Proceedings of MM '20)*, DOI: 10.1145/3394171.3414356.

Tan Tang, **Junxiu Tang**, Jiewen Lai, Lu Ying, Yingcai Wu, Lingyun Yu, and Peiran Ren. SmartShots: An Optimization Approach for Generating Videos with Data Visualizations Embedded. In *ACM Transactions on Interactive Intelligent Systems (TiiS) 2022*, DOI: 10.1145/3484506.

Sadia Rubab, **Junxiu Tang**, and Yingcai Wu. Examining Interaction Techniques in Data Visualization Authoring Tools from the Perspective of Goals and Human Cognition: A Survey. In *Journal of Visualization 2021*, DOI: 10.1007/s12650-020-00705-3.

Tan Tang, **Junxiu Tang**, Jiayi Hong, Lingyun Yu, Peiran Ren, and Yingcai Wu. Design Guidelines for Augmenting Short-form Videos using Animated Data Visualizations. In *Journal of Visualization 2021 (Proceedings of ChinaVis '19)*, DOI: 10.1007/s12650-020-00644-z.

Jiayi Zhou, Renzhong Li, **Junxiu Tang**, Tan Tang, Haotian Li, Weiwei Cui, and Yingcai Wu. Understanding Nonlinear Collaboration between Human and AI Agents: A Co-design Framework for Creative Design. In *ACM CHI conference on Human Factors in Computing Systems (Proceedings of CHI '24)*, DOI: 10.1145/3613904.3642812.

Xinhuan Shu, Alexis Pister, **Junxiu Tang**, Fanny Chevalier, and Benjamin Bach. Does This Have a Particular Meaning? Interactive Pattern Explanation for Network Visualizations In *IEEE Transactions on Visualization and Computer Graphics (TVCG) 2024 (Proceedings of IEEE VIS '24)*, DOI: 10.1109/TVCG.2024.3456192.

Xinhuan Shu, Aoyu Wu, **Junxiu Tang**, Benjamin Bach, Yingcai Wu, and Huamin Qu. What Makes a Data-GIF Understandable? In *IEEE Transactions on Visualization and Computer Graphics (TVCG) 2021 (Proceedings of IEEE VIS '20)*, DOI: 10.1109/TVCG.2020.3030396, Project webpage.

Sadia Rubab, Lingyun Yu, **Junxiu Tang**, Yingcai Wu. Exploring Effective Relationships Between Visual-Audio Channels in Data Visualization. In *Journal of Visualization 2023*, DOI: 10.1007/s12650-023-00909-3.

Tan Tang, Kaijuan Yuan, **Junxiu Tang**, Yingcai Wu. Toward the Better Modeling and Visualization of Uncertainty for Streaming Data. In *Journal of Visualization 2018 (Proceedings of ChinaVis '18)*, DOI: 10.1007/s12650-018-0518-y.

Ran Chen, Xinhuan Shu, Jiahui Chen, Di Weng, **Junxiu Tang**, Siwei Fu, and Yingcai Wu. Nebula: A Coordinating Grammar of Graphics. In *IEEE Transactions on Visualization and Computer Graphics (TVCG) 2022*, DOI: 10.1109/TVCG.2021.3076222.

Yifang Wang, Yang Wang, Yifan Cao, Huamin Qu, **Junxiu Tang**, and Yingcai Wu. Explore Mindfulness without Deflection: A Data Art Based on the Books of Songs. Pictorial. In *Proceedings of IEEE VISAP '21*, DOI: 10.1109/VISAP52981.2021.00014, Project webpage.

ART EXHIBITION

Loss of Sonnet 18.
SIGGRAPH Art Gallery, Denver, Colorado, US   07.2024

Posts with No Response: The Island of Loneliness.
China Vis Art Exhibition, Hong Kong, China   07.2024
Information+ Exhibition, Edinburgh, Scotland, UK   11.2023
IEEE VIS Art Exhibition, Melbourne, Victoria, Australia   10.2023

A Gear-like Storyline of Inception.
China Vis Art Exhibition, Shanghai, China   07.2018

ACADEMIC SERVICE

Co-organizer
What Do Visualization Art Projects Bring to the VIS Community?   2024
Panel @IEEE VIS 2024

Program Committee
IEEE VIS Arts Program   2025
IEEE Visualization & Visual Analytics (VIS) Short Papers, Posters   2025

Student Volunteer
IEEE Visualization & Visual Analytics (VIS)   2024
China Visualization and Visual Analytics Conference (ChinaVis)   2024
IEEE Eurographics / VGTC Symposium on Visualization (EuroVis)   2024
Information+ Conference (Info+)   2023

Conference Review
IEEE Visualization & Visual Analytics (VIS)   2022-2025
ACM Conference on Human Factors in Computing Systems (CHI)   2024-2026
ACM SIGCHI Conference on Computer-Supported Cooperative
Work & Social Computing (CSCW)   2025-2026
IEEE Pacific Visualization Symposium (PacificVis)   2024-2026
China Visualization and Visual Analytics Conference (ChinaVis)   2022-2025

Journal Review
IEEE Transactions on Visualization and Computer Graphics (TVCG)   2025

TEACHING

Zhejiang University   Winter 2022
21191590: Cross Media Visualization
21121280: Information Visualization
Teaching Assistant

Zhejiang University   Summer 2021
International Visualization Summer School
Teaching Assistant, Teaching Assistant Coordinator (TAC)

Zhejiang University   Summer 2019-2020
International Visualization Summer School
Teaching Assistant

Zhejiang University   Winter 2020
21191590: Cross Media Visualization
21121280: Information Visualization
Teaching Assistant, Teaching Assistant Coordinator (TAC)

TALK

Intersections of Logic and Expression: Bridging Science and Art through Data.
Boston, Massachusetts, US   06.2025
Conference talk @Data | Art Symposium 2025

A Comparative Study on Fixed-order Event Sequence Visualizations: Gantt, Extended Gantt, and Stringline Charts.
Tampa, Florida, US (Virtual)   10.2024
Conference talk @VIS 2024

From Concrete to Ambiguous and Reverse.
Hangzhou, Zhejiang, China   09.2024
Invited talk
@School of Art and Archaeology, Zhejiang University

Loss of Sonnet 18.
Denver, Colorado, US   07.2024
Conference artist talk @SIGGRAPH 2024

Posts with No Response: The Island of Loneliness.
Hong Kong, China   07.2024
Conference artist talk @ChinaVis 2024

Towards Better Illegal Chemical Facility Detection with Hazardous Chemicals Transportation Trajectories.
Hong Kong, China   07.2024
Conference talk @ChinaVis 2024

Posts with No Response: The Island of Loneliness.
Melbourne, Victoria, Australia   10.2023
Conference artist talk @IEEE VIS 2023

Visualization x Art.
Hangzhou, Zhejiang, China   06.2023
Invited talk
@School of Design and Innovation, China Academy of Art

A Visualization Approach for Monitoring Order Processing in E-Commerce Warehouse.
New Orleans, Louisiana, US (Virtual)   10.2021
Conference talk @IEEE VIS 2021

Narrative Transitions in Data Videos.
Salt Lake City, Utah, US (Virtual)   10.2020
Conference talk @IEEE VIS 2020

Design Guidelines for Augmenting Short-form Videos using Animated Data Visualizations.
Chengdu, Sichuan, China   07.2019
Conference talk @China Vis 2019

A Gear-like Storyline of Inception.
Shanghai, China   07.2018
Conference talk @China Vis 2018

Toward the Better Modeling and Visualization of Uncertainty for Streaming Data.
Shanghai, China   07.2018
Conference talk @China Vis 2018

MENTORSHIP   **Zhejiang University**
Weichen Sun, Ph.D. student, co-mentored with Tan Tang   2024
Jiayi Zhou, undergraduate student, co-mentored with Yingcai Wu   2022-2024
Yuhua Zhou, Master student, co-mentored with Yingcai Wu   2020-2021
Boyang Xie, undergraduate student, co-mentored with Yingcai Wu   2020-2021
Lu Ying, undergraduate student, co-mentored with Yingcai Wu   2019-2020